

The Longleaf Pine Ecosystem: A Research Assessment



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September 1994

Foreword

This report is a compilation of information gathered by the following committee of scientists from the USDA Forest Service:

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Information was gathered by mailing questioners to researchers and managers throughout the South. The first section of the report contains a listing of all the current research endeavors that deal with some aspect of the longleaf pine ecosystem. It is presented by state and alphabetically by organization within each state. Each record contains the title of the research, principle investigators, and sponsoring organization. If available, funding level or time budgets are also given. Most records also contain a list of the hypotheses being tested or preliminary results. A keyword index for the list is in the appendix.

The second section of this report is a list of information gained by practitioners through adaptive management. It is also arranged by state and organization. The final section is a list of research needs submitted by respondents to our mailings. It is arranged alphabetically by keyword.

This is a work in progress. If you have any information on research studies or adaptive management you would like included in the next revision, please fill out the form provided in the back of this publication and mail to the address indicated. Also if you note any changes needed in your studies or management results as currently reported, please notify the authors at the address found on the research request form.

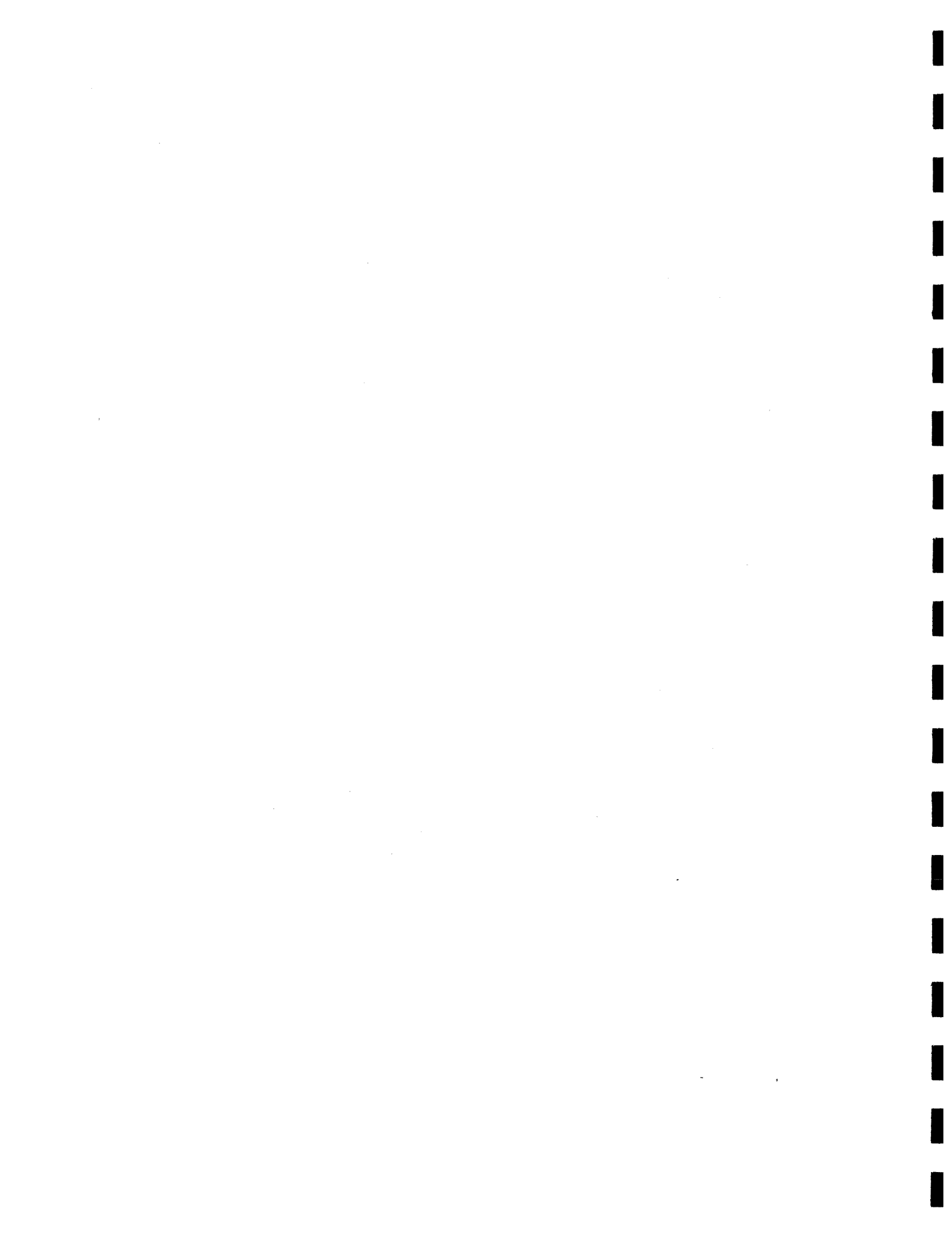


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SECTION ONE

CURRENT RESEARCH



No.: 1

Organization: Georgia Freshwater Wetlands and Heritage Inventory

Study Title: Biology of Gentian pinkroot (*Spigelia gentianoides*)

Location: Alabama

Scientist: J. Allison

Start Date: Sept., 1993

Budget: \$2,500 Funding source: USFWS

Summary: Not yet available

Keyword 1: understory

Keyword 2:

Keyword 3:

No.: 2

Organization: USDA Forest Service, SOFES Auburn

Study Title: Effect of cone production on radial growth of longleaf pine.

Location: Alabama

Scientist: W. Boyer

Start Date: January 1968

Budget: Funding source: US Forest Service

Summary: Determine if cone crop size is a variable associated with
annual radial growth. Overall cone production did not
significantly affect radial growth.

Keyword 1: seed production

Keyword 2: growth & yield

Keyword 3:

No.: 3

Organization: USDA Forest Service, SOFES Auburn

Study Title: Effect of environment on the growth of young longleaf pine.

Location: Alabama

Scientist: W. Boyer

Start Date: January 1969

Budget: Funding source: US Forest Service

Summary: Determine effects of selected climatic and soil variables on the rate and amount of height and diameter growth by young longleaf pines through two growing seasons.

Keyword 1: climate

Keyword 2: soils

Keyword 3:

No.: 4

Organization: USDA Forest Service, SOFES Auburn

Study Title: Growth of longleaf pine trees on forest walls vs trees in stand interior.

Location: Alabama

Scientist: W. Boyer

Start Date: January 1972

Budget: Funding source: US Forest Service

Summary: Trees on edge had increase in basal area growth over interior trees. Increase was 14.5% for north aspect, 66% east, 54% south and 40% west.

Keyword 1: growth & yield

Keyword 2:

Keyword 3:

No.: 5

Organization: USDA Forest Service, SOFES Auburn

Study Title: Longleaf pine seedbed preparation effects on surface soil conditions.

Location: Alabama

Scientist: W. Boyer

Start Date: January 1967

Budget: Funding source: US Forest Service

Summary: Determine differences in surface soil conditions following various seedbed preparation treatments for longleaf pine natural regeneration on two diverse sites.

Keyword 1: soils

Keyword 2: regeneration

Keyword 3:

No.: 6

Organization: USDA Forest Service, SOFES Auburn

Study Title: Longleaf pine seedling development after drought during establishment.

Location: Alabama

Scientist: W. Boyer

Start Date: January 1970

Budget: Funding source: US Forest Service

Summary: Record effects of drought at each of 5 discrete phases of seedling establishment, plus well-watered check 1) rate of germination 2) seedling dry weight 3) survival

Keyword 1: regeneration

Keyword 2:

Keyword 3:

No.: 7

Organization: USDA Forest Service, SOFES Auburn

Study Title: Longleaf pine soil variability in bulk density, texture, and water availability.

Location: Alabama

Scientist: W. Boyer

Start Date: January 1966

Budget: Funding source: US Forest Service

Summary: Investigate the variability of soils by determining the variation and sampling intensity required for 10% of plot means within the 95% confidence limits for bulk density, texture, and water availability.

Keyword 1: soils

Keyword 2:

Keyword 3:

No.: 8

Organization: USDA Forest Service, SOFES Auburn

Study Title: Seasonal development and moisture relations of longleaf pine foliage, by age, growth flush, and exposure

Location: Alabama

Scientist: W. Boyer

Start Date: January 1969

Budget: Funding source: US Forest Service

Summary: Initial moisture content of 1st year foliage 240% 2nd year 167%. After 76 hrs, mc of 1st year foliage -152% 2nd year 34%. The 2nd year foliage is quite leaky compared to 1st year foliage.

Keyword 1: climate

Keyword 2: physiology

Keyword 3:

No.: 9

Organization: USDA Forest Service, SOFES Auburn

Study Title: Soil moisture regime of longleaf pine stands.

Location: Alabama

Scientist: W. Boyer

Start Date: January 1966

Budget: Funding source: US Forest Service

Summary: Investigate seasonal soil moisture variations under differing site conditions and their effect on growth of overstory pines.

Keyword 1: climate

Keyword 2: growth & yield

Keyword 3:

No.: 10

Organization: USDA Forest Service, SOFES Auburn

Study Title: The relationship between crown width and tree size of open-grown longleaf pines.

Location: Alabama

Scientist: W. Boyer

Start Date: January 1987

Budget: Funding source: US Forest Service

Summary: Examine relationship between crown width and tree size and diameter growth rate in open-grown longleaf pines.

Keyword 1: growth & yield

Keyword 2:

Keyword 3:

No.: 11

Organization: USDA Forest Service, SOFES Auburn

Study Title: Variation in some thermal responses of four southern pines.

Location: Alabama

Scientist: W. Boyer

Start Date: January 1971

Budget: Funding source: US Forest Service

Summary: Record inter- and intraspecific variations in thermal responses of longleaf, slash, loblolly and shortleaf pines. Responses evaluated in terms of threshold temperature for growth, relative shoot growth rates, and pollen shed phenology.

Keyword 1: genetics

Keyword 2:

Keyword 3:

No.: 12

Organization: USDA Forest Service, SOFES Auburn

Study Title: Weight of longleaf pine cones in relation to age, stand, density, and site index.

Location: Alabama

Scientist: W. Boyer

Start Date: January 1968

Budget: Funding source: US Forest Service

Summary: Determine if cone size is influenced by such variables as age, site quality and stand density. Stand age, stand density, and site index did not significantly affect cone weight.

Keyword 1: seed production

Keyword 2:

Keyword 3:

No.: 13

Organization: USDA Forest Service, SOFES, Auburn, Al

Study Title: Economic strategies for efficiently managing longleaf pine
on an extended rotation basis.

Location: Alabama

Scientist: G. Somers, L. Teeter

Start Date: January, 1993

Budget: Funding source: USDA Forest Service

Summary: Formulate and solve a dynamic program for identifying the
optimal sequence of management decisions in longleaf
pine stands subject to the constraint of the minimum basal
area for RCW foraging and nesting requirements.

Keyword 1: RCW

Keyword 2: Birds

Keyword 3: T&E

No.: 14

Organization: USDA Forest Service, SOFES Auburn

Study Title: Longleaf regeneration trials.

Location: Alabama and other Southeastern States

Scientist: W. Boyer

Start Date: January 1966

Budget: Funding source: US Forest Service

Summary: Operational tests and demonstrations of the two-cut and
three-cut shelterwood systems of longleaf natural
regeneration at 11 separate locations throughout
southeast.

Keyword 1: regeneration

Keyword 2:

Keyword 3:

No.: 15

Organization: USDA Forest Service, SOFES Auburn

Study Title: Longleaf pine site zones.

Location: Alabama and other Southeastern States.

Scientist: W. Boyer

Start Date: January 1965

Budget: Funding source: US Forest Service

Summary: Identify and define the climatic, physiographic and edaphic differences found in the longleaf pine region and delineate the homogeneous areas with respect to their environment.

Keyword 1: classification

Keyword 2: soils

Keyword 3:

No.: 16

Organization: Auburn University

Study Title: Artificial regeneration of longleaf pine.

Location: Alabama, Auburn

Scientist: D. H. Gjerstad

Start Date: September, 1993

Budget: Funding source: USDA Forest Service

Summary: Evaluate cultural treatment effects on the development of longleaf and other southern pine seedlings growing in nursery seedbeds. Determine the impact of competition on the growth and development of longleaf pine.

Keyword 1: regeneration

Keyword 2:

Keyword 3:

No.: 17

Organization: USDA Forest Service, SOFES Auburn

Study Title: An ecological reconnaissance of the longleaf pine type.

Location: Alabama, Conecuh National Forest

Scientist: W. Boyer

Start Date: January 1959

Budget: Funding source: US Forest Service

Summary: Develop an ecological perspective of the longleaf/slash pine type through quantitative investigation of: plant community composition and relative dominance; associated soils characteristics, and plant succession.

Keyword 1: understory

Keyword 2: soils

Keyword 3:

No.: 18

Organization: USDA Forest Service, SOFES, Auburn University

Study Title: Gopher Tortoise Project

Location: Alabama, Conecuh National Forest

Scientist: C. Guyer

Start Date: August, 1991

Budget: \$25,000 per yr Funding source: USFS and Auburn University

Summary: Research is to determine response of Gopher Tortoise to thinning of off-site slash pine with retention of longleaf followed by prescribed burning.

Keyword 1: herps

Keyword 2: prescribed burning

Keyword 3: thinning

No.: 19

Organization: USDA Forest Service, SOFES Auburn

Study Title: Longleaf pine plantation growth.

Location: Alabama, Escambia County

Scientist: W. Boyer

Start Date: January 1975

Budget: Funding source: US Forest Service

Summary: Record long-term development of longleaf pine planted on prepared sites.

Keyword 1: growth & yield

Keyword 2:

Keyword 3:

No.: 20

Organization: USDA Forest Service, SOFES Auburn

Study Title: Effect of season of burn and density of longleaf pine overstory on understory succession on a coastal plain site.

Location: Alabama, Escambia Exp. Forest

Scientist: W. Boyer

Start Date: January 1970

Budget: Funding source: US Forest Service

Summary: Record interaction of season of burn with density of overstory pine on understory plant succession.

Keyword 1: understory

Keyword 2: prescribed burning

Keyword 3:

No.: 21

Organization: USDA Forest Service, SOFES Auburn

Study Title: Escambia farm forty

Location: Alabama, Escambia Exp. Forest

Scientist: W. Boyer

Start Date: January 1947

Budget: Funding source: US Forest Service

Summary: Management demonstration, 40-acre farm woodlot, Annual harvest and field days, first 15 years. Managed for logs and poles on an 80-year rotation. Periodic regeneration of small patches leading to all-age stand structure.

Keyword 1: regeneration

Keyword 2: silviculture

Keyword 3:

No.: 22

Organization: USDA Forest Service, SOFES Auburn

Study Title: Long-term development of regeneration under longleaf pine seedtree and shelterwood stands.

Location: Alabama, Escambia Exp. Forest

Scientist: W. Boyer

Start Date: January 1957

Budget: Funding source: US Forest Service

Summary: Record long-term development of regeneration retained under a range of residual overstory densities.

Keyword 1: regeneration

Keyword 2: prescribed burning

Keyword 3:

No.: 23

Organization: USDA Forest Service, SOFES Auburn

Study Title: Longleaf pine seed production.

Location: Alabama, Escambia Exp. Forest

Scientist: W. Boyer

Start Date: January 1964

Budget: Funding source: US Forest Service

Summary: Explore factors affecting cone production by longleaf pine and long-term variability in, and relationship between, pollen and cone production. Weather factors affecting date of peak pine flowering, and methods to predict flowering date.

Keyword 1: seed production

Keyword 2:

Keyword 3:

No.: 24

Organization: USDA Forest Service, SOFES Auburn

Study Title: Longleaf Pine Uneven-aged Management demonstrations.

Location: Alabama, Escambia Exp. Forest

Scientist: W. Boyer

Start Date: January 1977

Budget: Funding source: US Forest Service

Summary: Demonstration of uneven-aged management by 1) volume
2) B-D-q and 3) diameter limit with fixed residual BA/acre.

Keyword 1: silviculture

Keyword 2:

Keyword 3:

No.: 25

Organization: USDA Forest Service, SOFES Auburn

Study Title: Timing chemical release of naturally established longleaf pine for early initiation of seedling height growth.

Location: Alabama, Escambia Exp. Forest

Scientist: W. Boyer

Start Date: January 1989

Budget: Funding source: US Forest Service

Summary: Determine whether control of competing vegetation with a herbicide will promote early initiation of longleaf pine height growth before the brown-spot needle blight reaches serious levels in the new stand.

Keyword 1: understory

Keyword 2: herbicide

Keyword 3:

No.: 26

Organization: USDA Forest Service, SOFES Auburn

Study Title: Timing of prescribed fire for optimum hardwood control with minimum impact on pine growth.

Location: Alabama, Escambia Exp. Forest

Scientist: W. Boyer

Start Date: January 1985

Budget: Funding source: US Forest Service

Summary: Determine impact of winter and spring prescribed fire at 2-, 3-, and 5-year intervals on growth of overstory pine and development of understory hardwood.

Keyword 1: understory

Keyword 2: prescribed burning

Keyword 3:

No.: 27

Organization: USDA Forest Service, SOFES Auburn

Study Title: Understory succession and overstory growth in longleaf
pine small pole stands following fire, mechanical and
chemical treatment

Location: Alabama, Escambia Exp. Forest

Scientist: W. Boyer

Start Date: January 1973

Budget: Funding source: US Forest Service

Summary: Determine the effects of fire with & without supplemental
mechanical & chemical treatments for hardwood control on
understory plant succession and overstory growth.

Keyword 1: understory

Keyword 2: prescribed burning

Keyword 3:

No.: 28

Organization: USDA Forest Service, SOFES Auburn

Study Title: Management systems and rotations for longleaf pine

Location: Alabama, Escambia Experimental Forest

Scientist: W. Boyer

Start Date: January 1948

Budget: Funding source: US Forest Service

Summary: Compare even-aged vs uneven-aged management for
longleaf pine, plus rotation lengths of 40,60, and 80 years.
Stand density, summer rainfall, and rainfall X site index
account for 56% of the variation in diameter growth.

Keyword 1: silviculture

Keyword 2: growth & yield

Keyword 3:

No.: 29

Organization: USDA Forest Service, SEFES, Macon

Study Title: Reintroduction of prescribed fire in an old-growth longleaf pine stand.

Location: Alabama, Flomaton

Scientist: D. Wade

Start Date: February, 1993

Budget: \$15,000 Funding source: Champion Int. and USDA-FS

Summary: Quantifying the live and dead ground fuels that have accumulated during the past 40 years of fire exclusion, formulating fire prescriptions, conduction burns, and documenting fire behavior.

Keyword 1: prescribed burning

Keyword 2:

Keyword 3:

No.: 30

Organization: USDA Forest Service, SOFES, Auburn, Al

Study Title: Flomaton old-growth longleaf pine stand.

Location: Alabama, Flomaton

Scientist:

Start Date: January, 1993

Budget: Funding source:

Summary: Collect initial stand information prior to restoration efforts in a virgin, old-growth longleaf pine stand that has not been prescribed burned since the late 1940's.

Keyword 1: prescribed burning

Keyword 2: old growth

Keyword 3:

No.: 31

Organization: USDA Forest Service, SOFES Auburn

Study Title: Distance-dependent individual-tree volume and volume growth predictors for thinned, natural, even-aged stands of longleaf pine.

Location: Alabama, Mississippi, Florida, Georgia

Scientist: W. Boyer

Start Date: January 1987

Budget: Funding source: US Forest Service

Summary: Develop individual-tree system to predict tree and stand volumes from repeated observations of thinned even-aged stands of naturally regenerated longleaf pine using distance independent modeling techniques.

Keyword 1: growth & yield

Keyword 2:

Keyword 3:

No.: 32

Organization: USDA Forest Service, SOFES Auburn

Study Title: Regional longleaf growth study.

Location: Alabama, Mississippi, Florida, Georgia

Scientist: W. Boyer

Start Date: January 1964

Budget: Funding source: US Forest Service

Summary: Determine growth and yield of natural, thinned longleaf pine over a range of ages, sites, and residual stand densities.

Keyword 1: growth & yield

Keyword 2:

Keyword 3:

No.: 33

Organization: USDA Forest Service, SOFES Auburn

Study Title: Stand-level and diameter-distribution volume and volume growth predictors for thinned, natural, even-aged stands of longleaf pine.

Location: Alabama, Mississippi, Florida, Georgia

Scientist: W. Boyer

Start Date: January 1987

Budget: Funding source: US Forest Service

Summary: Develop system of compatible functions to predict stand volumes and stand-and-stock tables for thinned even-aged naturally regenerated longleaf pine.

Keyword 1: growth & yield

Keyword 2:

Keyword 3:

No.: 34

Organization: USDA Forest Service, SOFES, Auburn, Al

Study Title: Productivity of natural stands of longleaf pine in relation to competition and climatic factors.

Location: Alabama, Mississippi, Florida, Georgia

Scientist: R. Meldahl, J. Kush

Start Date: January, 1989

Budget: Funding source: USDA Forest Service

Summary: Investigate the relationship between productivity(biomass) and natural stands of longleaf pine in relation to stand age, site quality, stand density(competition), and the climatic factors.

Keyword 1: growth & yield

Keyword 2: climate

Keyword 3:

No.: 35

Organization: USDA Forest Service, Shoal Creek Ranger District

Study Title: Effect of prescribed burning and wildlife opening
installation on aquatic macroinvertebrates.

Location: Alabama, Shoal Creek Ranger District

Scientist: R. Albright, J. Feminella

Start Date: May, 1994

Budget: Funding source: USDA Forest Service

Summary: no data yet

Keyword 1: prescribed burning

Keyword 2: fauna

Keyword 3:

No.: 36

Organization: USDA Forest Service, Shoal Creek Ranger District

Study Title: The effect of changing from winter to summer burning on
understory vegetation.

Location: Alabama, Shoal Creek Ranger District

Scientist:

Start Date: FY95

Budget: Funding source: USDA Forest Service

Summary: no data yet

Keyword 1: prescribed burning

Keyword 2: understory

Keyword 3:

No.: 37

Organization: Jefferson Smurfit Corp. & CCA

Study Title: Response of Longleaf seedling to intensive plantation management practices.

Location: Florida

Scientist: Hank Page

Start Date:

Budget: Funding source: JSC/CCA

Summary: Treatments that included vegetation control produced the largest growth responses but fertilization was also beneficial to longleaf seedlings in the presence of weed control.

Keyword 1: Herbicide

Keyword 2: fertilizer

Keyword 3:

No.: 38

Organization: Stetson University

Study Title: Reproductive biology of pawpaws

Location: Florida

Scientist: E. Norman

Start Date:

Budget: \$9,000 Funding source: USFWS

Summary: not yet available

Keyword 1: understory

Keyword 2:

Keyword 3:

No.: 39

Organization: The Nature Conservancy

Study Title: Wiregrass regeneration and community restoration

Location: Florida

Scientist: R. L. Myers & P. Seamon & G. Seamon

Start Date:

Budget: \$26,953/3yrs Funding source: FI Game & Fish

Summary: not yet available

Keyword 1: wiregrass

Keyword 2: restoration

Keyword 3: understory

No.: 40

Organization: University of Central Florida

Study Title: Effects of patch-corridor configuration on nongame birds,
mammals and herptiles in longleaf pine-turkey oak sandhill
communities

Location: Florida

Scientist: J. Stout and D. T. Corey

Start Date:

Budget: \$87,826/4yrs Funding source: FI Games & Fish

Summary: not available

Keyword 1: birds

Keyword 2:

Keyword 3:

No.: 41

Organization: USDI National Biological Survey, Florida

Study Title: Vertebrate biodiversity in the remaining longleaf pine ecosystem of the southeastern coastal plain.

Location: Florida and rest of southeast.

Scientist: C. K. Dodd

Start Date: October, 1993

Budget: \$750,000 Funding source: USDI

Summary: The objective is to determine extent of remaining longleaf pine and associated vertebrate species especially keystone and potentially threatened or endangered species such as gopher tortoises and gopher frogs.

Keyword 1: fauna

Keyword 2: T&E

Keyword 3:

No.: 42

Organization: Department of Air Force, Florida

Study Title: Demography of the red-cockaded woodpecker at the Avon Park Air Force Range.

Location: Florida, Avon Park

Scientist: D. R. Progulske, R. Bowman

Start Date: October, 1992

Budget: \$95,000/year Funding source: Dept. of Air Force

Summary: There are 22 active red-cockaded woodpecker clusters on Avon Park Air Force Range. 52 birds have been banded. Nest monitoring and foraging watches are underway. Monitoring has been expanded to an adjacent private property.

Keyword 1: RCW

Keyword 2: birds

Keyword 3: T&E

No.: 43

Organization: Florida State University

Study Title: Species centered Environmental Analysis for the
Red-cockaded Woodpecker

Location: Florida, Apalachicola NF

Scientist: F. James

Start Date: July, 1992

Budget: \$178,526 Funding source: National Science Foundation

Summary: We are studying the population dynamics of the RCW in
the Apalachicola NF and the Red Hills Plantations
including environmental influences.

Keyword 1: birds

Keyword 2: RCW

Keyword 3: T&E

No.: 44

Organization: Tall Timbers Research Station

Study Title: Vertebrate Response to Ecosystem Management of
Longleaf Pine on Public lands in the Florida Panhandle.

Location: Florida, Apalachicola Ranger Dist.

Scientist: L. A. Brennan

Start Date: May, 1994

Budget: \$25,000/yr Funding source: USDA Forest Service

Summary: not yet available

Keyword 1: fauna

Keyword 2:

Keyword 3:

No.: 45

Organization: University of Georgia

Study Title: Ecology of Nearctic Earthworms in the SE

Location: Florida, Apalachicola Ranger Dist.

Scientist: P.F. Hendrix, M.A. Callahan, L. Kirn

Start Date: January, 1993

Budget: \$25,000/2yrs Funding source: USDA Forest Service

Summary: Reductions in density/biomass in harvested vs unharvested plots. Reductions greatest in spring. Population densities in both harvested and unharvested plots lowest in summer and increased in fall.

Keyword 1: invertebrates

Keyword 2:

Keyword 3:

No.: 46

Organization: Tall Timbers Research Station

Study Title: Field Trials on Native Groundcover Vegetation

Location: Florida, Blackwater River State Forest

Scientist: S. M. Hermann

Start Date: October, 1993

Budget: Funding source: Florida Gas Transmission

Summary: not yet available

Keyword 1: restoration

Keyword 2: understory

Keyword 3: wiregrass

No.: 47

Organization: USDA Forest Service, SOFES Auburn

Study Title: Soil-vegetation relationships in northwest Florida sandhills.

Location: Florida, Chipola

Scientist: W. Boyer

Start Date: January 1961

Budget: Funding source: US Forest Service

Summary: Test hypothesis that scrub oak-wiregrass community on
uncleared west Florida sandhills occurs in specific
combinations or patterns that can be correlated with
variations in selected soil profile characteristics.

Keyword 1: understory

Keyword 2: soils

Keyword 3:

No.: 48

Organization: The Nature Conservancy

Study Title: Cross-scale response to restoration techniques in
degraded Florida sandhills.

Location: Florida, Eglin Air Force Base

Scientist: L. Provencher, G. Tanner, D. Gordon, J. Hardesty, L. Bren

Start Date: 1994

Budget: 7.5 scientist/yr Funding source: DOD

Summary: Experimental blocks have been established, and
pre-treatment sampling has been initiated.

Keyword 1: restoration

Keyword 2:

Keyword 3: understory

No.: 49

Organization: The Nature Conservancy

Study Title: Demography of the Red-cockaded woodpecker at Eglin Air Force Base.

Location: Florida, Eglin Air Force Base

Scientist: J. Hardesty, R. Smith, H. F. Percival

Start Date: 1992

Budget: 4.5 scientist-yr Funding source: DOD

Summary: Preliminary results suggest a stable population. Group size and productivity approach populationwide averages. Researchers are collecting third year data.

Keyword 1: birds

Keyword 2: RCW

Keyword 3: T&E

No.: 50

Organization: The Nature Conservancy

Study Title: Ecological Correlates of Red-cockaded woodpecker foraging preference habitat use and activity area

Location: Florida, Eglin Air Force Base

Scientist: R. Smith, J. Hardesty, H.F. Percival

Start Date: 1993

Budget: 3.5 scientist-yr Funding source: DOD

Summary: Hatchling, postfledgling, and winter following bouts were completed for the first field season. Preliminary analysis of five RCW groups indicated activity areas of 200 acres to 300 acres.

Keyword 1: birds

Keyword 2: RCW

Keyword 3: T&E

No.: 51

Organization: The Nature Conservancy

Study Title: Understory response to an herbicide in longleaf pine
sandhill

Location: Florida, Eglin Air Force Base

Scientist: G.Tanner, J. Hardesty, S.Berish

Start Date: 1993

Budget: 1 scientist-yr Funding source: DOD

Summary: Preliminary results indicate a viable herbaceous and woody
ground cover community in hexazinone treated areas and a
negative correlation between overstory and understory LAI.

Keyword 1: restoration

Keyword 2: understory

Keyword 3: herbicide

No.: 52

Organization: The Nature Conservancy

Study Title: Effect of Fire on Skunk vine density in an invaded sandhill
site.

Location: Florida, Hernando County

Scientist: D. Gordon, G. Gann-Matzen, S. Morrison

Start Date: 1992

Budget: Funding source: Nature Conservancy

Summary: Spring burn caused 100% mortality of vines above ground.
Vines resprouted, but total cover was reduced. A second
burn reduced vine cover by an additional 52%.

Keyword 1: restoration

Keyword 2: understory

Keyword 3: prescribed burning

No.: 53

Organization: Archbold Biological Station

Study Title: Longleaf pine mortality study at the Venus Flatwoods Preserve.

Location: Florida, Highlands County

Scientist: E. Menges

Start Date: 1993

Budget: Funding source: Nature Conservancy

Summary: A 50 acre burn containing 50% of the tagged trees was conducted in Jan. 1994. Initial measurements indicate mild effects of fire on the trees; low mortality is expected.

Keyword 1: prescribed burning

Keyword 2:

Keyword 3:

No.: 54

Organization: The Nature Conservancy

Study Title: Pine population dynamics and spatial patterns.

Location: Florida, Highlands County

Scientist: R. Myers and H. Belles

Start Date: 1983

Budget: Funding source: The Nature Conservancy

Summary: Restoration burns were conducted in 1992, and 1993. The annual pine census was completed in spring, 1994.

Keyword 1: restoration

Keyword 2: prescribed burning

Keyword 3:

No.: 55

Organization: Florida Division of Forestry

Study Title: Restoration of wiregrass to a flatwoods site by broadcast
seeding

Location: Florida, Lake County

Scientist: Jon Blanchard

Start Date: February, 1994

Budget: Funding source: FL Division of Forestry

Summary: The study objective is to test the ability of wiregrass to
recolonize flatwoods sites from direct sown seed.
Wiregrass seed has germinated and survival data is being
collected

Keyword 1: wiregrass

Keyword 2: restoration

Keyword 3:

No.: 56

Organization: Archbold Biological Station

Study Title: Clonal recruitment strategies for scrub oaks.

Location: Florida, Lake Placid

Scientist: E. S. Menges, D. Berry

Start Date:

Budget: Funding source:

Summary: Sand live oak is a forager with long slender rhizomes
spreading rapidly after fires. Turkey oak spreads little, but
has massive storage rhizomes that enable more vigorous
post fire resprouting.

Keyword 1: prescribed burning

Keyword 2: restoration

Keyword 3:

No.: 57

Organization: The Nature Conservancy

Study Title: Effect of Fertilization on Establishment, growth and seed production of wiregrass from seeds and plugs.

Location: Florida, Liberty County

Scientist: G. Seamon, H. Montgomery

Start Date: 1993

Budget: Funding source: Nature Conservancy

Summary: By October, 1993 only 44% of the planted wiregrass survived regardless of treatment.

Keyword 1: restoration

Keyword 2: wiregrass

Keyword 3: understory

No.: 58

Organization: The Nature Conservancy

Study Title: Effect of Fire Management on Sandhill Community Structure.

Location: Florida, Liberty County

Scientist: D. Gordon, G. Seamon, S. Morrison

Start Date: 1991

Budget: Funding source: Nature Conservancy

Summary: Permanent plots were established on both preserves.

Keyword 1: prescribed burning

Keyword 2: understory

Keyword 3:

No.: 59

Organization: The Nature Conservancy

Study Title: Introduction of Apalachicola Rosemary under two competitive treatments of at the Apalachicola bluffs and ravines preserve.

Location: Florida, Liberty County

Scientist: D. Gordon G. Seamon

Start Date: 1991

Budget: Funding source: Nature Conservancy

Summary: Survival of plants in spring, 1992 was 95% in unburned sites and 64% in the burned site. Survival in the 1993 burned site was 47%. Competition effects were non-significant by the end of the second growing season.

Keyword 1: restoration

Keyword 2: understory

Keyword 3: prescribed burning

No.: 60

Organization: The Nature Conservancy

Study Title: Wiregrass restoration by planting seeds and seedlings.

Location: Florida, Liberty County

Scientist: R. Myers, P. Seamon, G. Seamon

Start Date: 1990

Budget: Funding source: Nature Conservancy

Summary: Survival was 98% in 1991. Survival was 96% in October, 1993 following a spring burn. Mean leaf length was 21 cm and basal diameter was 5 cm.

Keyword 1: restoration

Keyword 2: wiregrass

Keyword 3: understory

No.: 61

Organization: USDA Forest Service, SEFES, Florida

Study Title: Isolated pond use by amphibians in regularly burned
versus long-unburned Sandhills

Location: Florida, Ocala National Forest

Scientist: C.H. Greenberg

Start Date: February, 1994

Budget: \$7,000/year Funding source: USDA Forest Service

Summary: Study objectives is to compare amphibian populations in
ponds surrounded by burned and unburned forest
communities.

Keyword 1: herps

Keyword 2: prescribed burning

Keyword 3:

No.: 62

Organization: USDA Forest Service, SEFES, Florida

Study Title: Edaphic influences on gap-phase regeneration in longleaf
pine/wiregrass ecosystems

Location: Florida, Ocala National Forest

Scientist: D.G. Brockway, K.W. Outcalt

Start Date: June, 1991

Budget: \$10,000 Funding source: USDA Forest Service

Summary: Seedling survival in gaps in longleaf stands was not
correlated with available light but was related to differences
in precipitation across gaps.

Keyword 1: regeneration

Keyword 2: wiregrass

Keyword 3:

No.: 63

Organization: USDA Forest Service, SEFES, Florida

Study Title: Restoration of longleaf pine/wiregrass ecosystems using low-rate herbicide applications.

Location: Florida, Ocala National Forest

Scientist: D. Brockway, N. Wilkins, K. Outcalt

Start Date: April, 1991

Budget: \$15,000/year Funding source: USDA Forest Service

Summary: Hexazinone application reduced the oaks in the understory of degraded longleaf sandhills sites. There was no evidence of significant longterm damage or changes to other plant species. Thus, this is a good tool for use in restoration.

Keyword 1: restoration

Keyword 2: understory

Keyword 3: herbicide

No.: 64

Organization: USDA Forest Service, SEFES, Macon

Study Title: Impact of repeated winter burning on arthropod and small mammal populations in longleaf pine stands.

Location: Florida, Osceola NF

Scientist: J. Hanula, S. Loeb, D. Wade

Start Date: August, 1994

Budget: \$373,000 Funding source: TNC and USDA-FS

Summary: no data yet

Keyword 1: prescribed burning

Keyword 2: invertebrates

Keyword 3: mammals

No.: 65

Organization: The Nature Conservancy

Study Title: Restoration of wiregrass on disturbed sites at tiger Creek Preserve.

Location: Florida, Polk county

Scientist: S. Morrison and D. Gordon

Start Date: 1990

Budget: Funding source: Nature Conservancy

Summary: Wiregrass sprigs were planted into tubling trays. Survival rate was 37%. Outplanted wiregrass plugs had a 58% survival rate.

Keyword 1: restoration

Keyword 2: wiregrass

Keyword 3: understory

No.: 66

Organization: University of Florida

Study Title: Restoration of four herbaceous species in old bahia pastures.

Location: Florida, San Felasco Hammock State Preser

Scientist: K. Uridel, D. Gordon and F.Putz

Start Date: March, 1993

Budget: Funding source: Nature Conservancy

Summary: Bahiagrass removal was effective in the herbicide and plow treatments. Survival and growth of wiregrass and blazing star were significantly greatest in plow treatments and elephant foot was greatest in herbicide plots.

Keyword 1: Restoration

Keyword 2: wiregrass

Keyword 3: understory

No.: 67

Organization: Tall Timbers Research Station

Study Title: Vegetation recovery in small scale natural and artificial disturbances.

Location: Florida, St Marks NWR

Scientist: J. Glitzenstein and W. J. Platt

Start Date: May, 1992

Budget: \$83,311/4yrs Funding source: FI Games & Fish

Summary: The main purpose of this study is to test this hypothesis by comparing vegetation recovery patterns following various types of experimentally created small-scale disturbances in larger plots burned at different times of the year.

Keyword 1: understory

Keyword 2: disturbance

Keyword 3: prescribed burning

No.: 68

Organization: Tall Timbers Research Station

Study Title: A Comparison of the Effects of Two Fire Regimes.

Location: Florida, Tallahassee

Scientist: S. Johnson, P. Hale and G. Balkcom

Start Date: July, 1991

Budget: \$10,850/yr Funding source: Quail Unlimited,

Summary: Compare growing season and traditional winter fire regimes effects on important leguminous quail food plants and for hardwood brush control.

Keyword 1: birds

Keyword 2: prescribed burning

Keyword 3: understory

No.: 69

Organization: Tall Timbers Research Station

Study Title: Effects of Fire Exclusion on Birds and Mammals.

Location: Florida, Tallahassee

Scientist: T. Engstrom, and W. Wilson Baker

Start Date: January, 1966

Budget: Funding source: Tall Timbers

Summary: This is a long-term study of the effects of fire exclusion on the bird and mammal communities within a vegetative community that depended on frequent fires.

Keyword 1: fauna

Keyword 2: prescribed burning

Keyword 3: understory

No.: 70

Organization: Tall Timbers Research Station

Study Title: Population and Habitat Ecology of Northern Bobwhite Quail in the Red Hills

Location: Florida, Tallahassee

Scientist: L. A. Brennan, S. Fuller, J. Lee, and S. Manley

Start Date: Fall 1993

Budget: \$240,000/yr Funding source: Quail Initiative Fundraising

Summary: Study will assess (1) long-term quail population trends, (2) value of ground and nest predator control, (3) food plots versus use of native vegetation, and (4) population responses to cool-season vs warm season prescribed burn.

Keyword 1: birds

Keyword 2: prescribed burning

Keyword 3:

No.: 71

Organization: Tall Timbers Research Station

Study Title: Population and Habitat Ecology of Northern Bobwhite Quail
in the Red Hills

Location: Florida, Tallahassee

Scientist: L. A. Brennan, S. Fuller, J. Lee, and S. Manley

Start Date: Fall 1993

Budget: \$240,000/yr Funding source: Quail Initiative Fundraising

Summary: Study will (1) assess long-term quail population trends , (2)
values of ground and nest predator control , (3) food plots
versus use of native vegetation, and (4) population
responses to cool-season vs warm season prescribed
burn.

Keyword 1: birds

Keyword 2: prescribed burning

Keyword 3:

No.: 72

Organization: Tall Timbers Research Station

Study Title: Red-cockaded Woodpecker Behavioral Response to the
Use of Fire Retardant Foaming Agents.

Location: Florida, Tallahassee

Scientist: T. Engstrom and S. M. Hermann F. Cole

Start Date: Fall 1992

Budget: \$10,000 Funding source: US Fish & Wildlife

Summary: To determine the behavioral effects of using fire retardant
foaming agents to protect red-cockaded woodpecker cavity
trees.

Keyword 1: birds

Keyword 2: prescribed burning

Keyword 3: RCW

No.: 73

Organization: Tall Timbers Research Station

Study Title: Wild Turkey Brood Habitat Use and Reproductive Ecology
in Fire-type Pine Forest.

Location: Florida, Tallahassee

Scientist: D. Speake and C. Peoples

Start Date: January 1991

Budget: \$68,000/yr Funding source: National Wild Turkey Fed.

Summary: Poult mortality was high(89%). Most of the
mortality(87.5%) was from predation in the first 2-3 weeks.
Mammals accounted for 70% of this with raccoons being
the most important. Avian predation made up 14% and
reptiles 4%.

Keyword 1: birds

Keyword 2: prescribed burning

Keyword 3:

No.: 74

Organization: The Nature Conservancy

Study Title: Reproductive Response of wiregrass to month of burn.

Location: Florida, Washington County

Scientist: R. Myers, P. Seamon, G. Seamon

Start Date: 1992

Budget: Funding source: The Nature Conservancy

Summary: February prescribed burns had 50% of the wiregrass
flowering and 5% or lower seed viability. In March and
April, flowering was 65%,and seed viability 15%. May-July
plots had 85% flowering and 20% viability.

Keyword 1: restoration

Keyword 2: wiregrass

Keyword 3: understory

No.: 75

Organization: USDA Forest Service, SEFES, Florida

Study Title: Site preparation systems for restoration of longleaf -
wiregrass sites

Location: Florida, Withlatchoochee State Forest

Scientist: K.W. Outcalt

Start Date: May, 1994

Budget: \$10,000/year Funding source: USDA Forest Service

Summary: The study objective is to compare hexazinone and
prescribed burning to determine which is most effective at
reducing oak competition without significant damage to
other plant species

Keyword 1: herbicide

Keyword 2: understory

Keyword 3: prescribed burning

No.: 76

Organization: Jones Center, U of GA

Study Title: Population biology of American chaffseed.

Location: Georgia, Ichauway

Scientist: K. Kirkman

Start Date: Sept., 1992

Budget: \$41,000 Funding source: USFWS

Summary: Not yet available

Keyword 1: understory

Keyword 2:

Keyword 3:

No.: 77

Organization: Joseph W. Jones Ecological Research Ctr.

Study Title: Biology and ecology of *schwalbea americana*.

Location: Georgia, Ichauway

Scientist: L. K. Kirkman

Start Date: September, 1993

Budget: Funding source: Joseph W. Jones Eco. Res.

Summary: Objectives are to determine population demographics , soil seed bank, pollination vectors, and associated vegetation.

Keyword 1: understory

Keyword 2: restoration

Keyword 3:

No.: 78

Organization: Joseph W. Jones Ecological Research Ctr.

Study Title: Functional effects of overstory disturbance in longleaf pine ecosystems.

Location: Georgia, Ichauway

Scientist: B. J. Palik and R. Mitchell

Start Date: September, 1993

Budget: Funding source: Joseph W. Jones Eco. Res.

Summary: This study is designed to assess the functional influence of overstory disturbance on woody plant population dynamics in longleaf pine ecosystems.

Keyword 1: disturbance

Keyword 2: old growth

Keyword 3:

No.: 79

Organization: Joseph W. Jones Ecological Research Ctr.

Study Title: Impacts of land use and land use changes on habitat fragmentation in the longleaf pine-wiregrass ecosystem.

Location: Georgia, Ichauway

Scientist: W. Michener

Start Date: September, 1993

Budget: Funding source: Joseph W. Jones Eco. Res.

Summary: The objective is to gain an increased understanding of the impact of changing land use patterns and the relative importance of habitat fragmentation at various scales and its effect on ecological patterns and processes.

Keyword 1: disturbance

Keyword 2: landscape

Keyword 3:

No.: 80

Organization: Joseph W. Jones Ecological Research Ctr.

Study Title: Landscape variation in large woody debris characteristics in longleaf pine ecosystems.

Location: Georgia, Ichauway

Scientist: B. J. Palik

Start Date: September, 1993

Budget: Funding source: Joseph W. Jones Eco. Res.

Summary: The overall objective of this study is to gain an increased understanding of large woody debris characteristics in a longleaf pine dominated landscape having a recently adopted debris retention policy

Keyword 1: old growth

Keyword 2: landscape

Keyword 3:

No.: 81

Organization: Joseph W. Jones Ecological Research Ctr.

Study Title: Landscape variation in overstory mortality in longleaf pine ecosystems.

Location: Georgia, Ichauway

Scientist: B. J. Palik

Start Date: September, 1993

Budget: Funding source: Joseph W. Jones Eco. Res.

Summary: The overall objective of this study is to gain an increased understanding of natural disturbance regimes and overstory mortality patterns in longleaf pine-dominated ecosystem.

Keyword 1: disturbance

Keyword 2: old growth

Keyword 3:

No.: 82

Organization: Joseph W. Jones Ecological Research Ctr.

Study Title: Regeneration of primary structure and establishment of ecosystem function.

Location: Georgia, Ichauway

Scientist: R. J. Mitchell and L. R. Boring

Start Date: September, 1993

Budget: Funding source: Joseph W. Jones Eco. Res.

Summary: This study is to determine constraints to successful introduction of wiregrass at two stages of succession (old field and 10-15 year-old longleaf stands). The study will also look at competition and soil moisture conditions effect on broadcast seeding.

Keyword 1: restoration

Keyword 2: understory

Keyword 3:

No.: 83

Organization: Joseph W. Jones Ecological Research Ctr.

Study Title: The ecological role of faunal soil disturbance in the
longleaf pine-wiregrass ecosystem.

Location: Georgia, Ichauway

Scientist: W. K. Michener, K. Kirman, R. Mitchell

Start Date: September, 1993

Budget: Funding source: Joseph W. Jones Eco. Res.

Summary: The objective is to quantify the frequency and extent of
faunal soil disturbance patches and plant community
responses to those disturbances across a geomorphic
gradient.

Keyword 1: disturbance

Keyword 2: understory

Keyword 3: fauna

No.: 84

Organization: Joseph W. Jones Ecological Research Ctr.

Study Title: The effects of multiple stress on growth, development and
ecophysiology of *aristida stricta*.

Location: Georgia, Ichauway

Scientist: R. J. Mitchell and M. Miller

Start Date: September, 1993

Budget: Funding source: Joseph W. Jones Eco. Res.

Summary: This study will quantify the response of wiregrass to light,
moisture and nutrient limitations.

Keyword 1: understory

Keyword 2: nutrients

Keyword 3:

No.: 85

Organization: Joseph W. Jones Ecological Research Ctr.

Study Title: The effects of season of burning and fuel types on fire characteristics.

Location: Georgia, Ichauway

Scientist: R. J. Mitchell and L. R. Boring

Start Date: September, 1993

Budget: Funding source: Joseph W. Jones Eco. Res.

Summary: The objective is to measure fire characteristics (intensity and severity) in growing and dormant season burns and to determine the role of fuel type. The effect of these factors on nutrient availability and uptake will also be studied.

Keyword 1: prescribed burning

Keyword 2: nutrients

Keyword 3:

No.: 86

Organization: Joseph W. Jones Ecological Research Ctr.

Study Title: The impact of habitat fragmentation and shrub-hardwood on a sherman's fox squirrel population.

Location: Georgia, Ichauway

Scientist: W. Michener

Start Date: September, 1993

Budget: Funding source: Joseph W. Jones Eco. Res.

Summary: Objectives of this study are to estimate the population density of fox squirrels and to quantify structural and compositional elements of the landscape effecting squirrel habitat.

Keyword 1: mammals

Keyword 2: landscape

Keyword 3:

No.: 87

Organization: Tall Timbers Research Station

Study Title: Dynamics of a small population of Red-cockaded
woodpeckers.

Location: Georgia, Ichauway

Scientist: W. W. Baker, L. Landers, J. W. Jones, T. Engstrom

Start Date: July, 1992

Budget: Funding source: Tall Timber & Jones Research

Summary: This will be a study of dynamics of the small population of
Red-cockaded Woodpecker on the Center.

Keyword 1: birds

Keyword 2: RCW

Keyword 3: T&E

No.: 88

Organization: USDA Forest Service, SEFES, Macon

Study Title: Geographic variation of longleaf pine in Georgia and
Florida.

Location: Georgia, Macon

Scientist: J. Fraus, E. Sluder

Start Date: January 1970

Budget: \$20,000 Funding source: USDA FS, SEFES

Summary: At age 15 years, survival and early height growth were best
for the northern sources. Sources from the southern half of
Georgia were broadly adaptable within that area.

Keyword 1: genetics

Keyword 2:

Keyword 3:

No.: 89

Organization: Tall Timbers Research Station

Study Title: Evaluation and Modification of the USPS fire effects
vegetation monitoring handbook for use in the southeast.

Location: Georgia, Okefenokee National Wildlife Refu

Scientist: S. Hermann, F. Cole

Start Date: Fall, 1992

Budget: \$20,000 Funding source: USFWS

Summary: not yet available

Keyword 1: understory

Keyword 2: prescribed burning

Keyword 3:

No.: 90

Organization: Louisiana State University

Study Title: Long-term dynamics of an old-growth longleaf pine stand

Location: Georgia, Thomasville

Scientist: W. Platt, J. Hamrick, S. Rathbun, D. West, T. Doyle, S. Gra

Start Date: 1978

Budget: Funding source:

Summary: The initial results indicate that the levels of genetic
heterozygosity increases with tree age/size.

Keyword 1: old-growth

Keyword 2: disturbance

Keyword 3:

No.: 91

Organization: Tall Timbers Research Station

Study Title: Patterns of Gopher Tortoise Movement and Burrow Use in
and Old-growth Longleaf Pine Forest

Location: Georgia, Thomasville

Scientist: S. Hermann, C. Guyer

Start Date: Spring 1992

Budget: \$2,000 Funding source: Georgia DNR

Summary: not yet available

Keyword 1: herps

Keyword 2: old-growth

Keyword 3:

No.: 92

Organization: Tall Timbers Research Station

Study Title: Red-cockaded Woodpecker Foraging Behavior, Habitat
Use, and Provisioning Rates in an Old-growth Longleaf
Pine Forest

Location: Georgia, Thomasville

Scientist: C. Rudolph T. Engstrom, R. Conner

Start Date: Sept, 1992

Budget: \$14,000 Funding source: US Forest Service

Summary: Habitat and sites conditions used by foraging woodpeckers
will be determined and quantified throughout the year.
During the breeding season successful nest cavities will be
monitored to determine provisioning rates of adults feeding
nestling woodpeckers.

Keyword 1: birds

Keyword 2: old-growth

Keyword 3: RCW

No.: 93

Organization: Tall Timbers Research Station

Study Title: Wood Duck Nest Sites in Old-growth longleaf Pine Forest.

Location: Georgia, Thomasville

Scientist: C. Sisson and T. Engstrom

Start Date: January, 1990

Budget: Funding source: Tall Timbers

Summary: We surveyed the entire Wade Tract easement for suitable wood duck nest sites and found a density of .24/ha. Six of these had been or were being used by nesting wood ducks.

Keyword 1: birds

Keyword 2: old-growth

Keyword 3:

No.: 94

Organization: USDA Forest Service, SEFES, Macon

Study Title: Survival and growth response of longleaf pine to manual defoliation in late summer-early fall.

Location: Georgia, Waycross and SC, Aiken

Scientist: D. Wade

Start Date: August, 1993

Budget: \$25,000 Funding source: USDA Forest Service

Summary: Healthy looking longleaf pines 5-12 ft high were 0, 95% or 100% manually defoliated at one of 5 3-day time periods spaced three weeks apart between 8/9/93 and 12/3/93.

Keyword 1: physiology

Keyword 2:

Keyword 3:

No.: 95

Organization: USDA Forest Service, SOFES, Pineville, La

Study Title: Precommercial thinning direct-seeded longleaf pine on a poor site.

Location: Louisiana, Rapides Parish

Scientist: C. Baldwin

Start Date: January, 1974

Budget: Funding source: US Forest Service

Summary: This study is one of a series evaluating precommercial thinning of direct seeded stands on a range of sites. The results have been incorporated into several publications are being used in an effort to model longleaf pine growth and yield.

Keyword 1: growth & yield

Keyword 2: thinning

Keyword 3:

No.: 96

Organization: USDA Forest Service, SOFES, Pineville, La

Study Title: Precommercial thinning direct-seeded longleaf pine on a medium site.

Location: Louisiana, Rapides Parish

Scientist: C. Baldwin

Start Date: January, 1969

Budget: Funding source: US Forest Service

Summary: This study is one of a series evaluating precommercial thinning of direct seeded stands on a range of sites. The results have been incorporated into several publications are being used in an effort to model longleaf pine growth and yield.

Keyword 1: growth & yield

Keyword 2: thinning

Keyword 3:

No.: 97

Organization: Louisiana State University

Study Title: A vegetation study of the ground layer component of
longleaf pine communities on the Kisatchie National Forest.

Location: Louisiana, Kisatchie National Forest

Scientist: W. Platt

Start Date:

Budget: Funding source: US Forest Service

Summary: no data available yet

Keyword 1: understory

Keyword 2:

Keyword 3:

No.: 98

Organization: USDA Forest Service, SOFES, Pineville, La

Study Title: Group selection harvest and growing season prescribed
burning.

Location: Louisiana, Kisatchie National Forest

Scientist: D. Haywood

Start Date: January, 1994

Budget: Funding source: US Forest Service

Summary: no data yet

Keyword 1: prescribed burning

Keyword 2: understory

Keyword 3: silviculture

No.: 99

Organization: USDA Forest Service, SOFES, Pineville, La

Study Title: Response of the southern pine ecosystem to season of prescribed burning.

Location: Louisiana, Kisatchie National Forest

Scientist: D. Haywood

Start Date: January, 1993

Budget: Funding source: US Forest Service

Summary: no data yet

Keyword 1: prescribed burning

Keyword 2: understory

Keyword 3:

No.: 100

Organization: USDA Forest Service, SOFES, Pineville, La

Study Title: Effects of seasonal burning on herbaceous and woody vegetation of longleaf pine-bluestem site.

Location: Louisiana, Palustris Exp Forest

Scientist: D. Haywood

Start Date: January, 1962

Budget: Funding source: US Forest Service

Summary: Data after 30 years has been collected, is being analyzed, and will be published. This study serves as an excellent demonstration of the effect of seasonal burning on understory plant development.

Keyword 1: prescribed burning

Keyword 2: understory

Keyword 3:

No.: 101

Organization: USDA Forest Service, SOFES, Pineville, La

Study Title: Effects of benomyl and ridomil on seedling storage and field performance of southern pines.

Location: Louisiana, Palustris Exp Forest

Scientist: J. Barnett

Start Date: January, 1988

Budget: Funding source: US Forest Service

Summary: This ongoing study demonstrates the value of using fungicides in the seedling packing material used at nurseries. The incorporation of fungicides into the media significantly improves survival and early height initiation of longleaf seedlings.

Keyword 1: regeneration

Keyword 2: pesticide

Keyword 3:

No.: 102

Organization: USDA Forest Service, SOFES, Pineville, La

Study Title: Effects of fungicide treatment of Pythium isolates on root growth potential of longleaf pine seedlings.

Location: Louisiana, Palustris Exp Forest

Scientist: J. Barnett

Start Date: January, 1989

Budget: Funding source: US Forest Service

Summary: This study documents Pythium as cause of rapid decay of stored longleaf pine seedlings. Incorporation of fungicides into packing materials improves survival and early height of longleaf pine seedlings.

Keyword 1: regeneration

Keyword 2: pesticide

Keyword 3:

No.: 103

Organization: USDA Forest Service, SOFES, Pineville, La

Study Title: Field testing longleaf pine seeds coated with Anipel for rodent repellency.

Location: Louisiana, Palustris Exp Forest

Scientist: J. Barnett

Start Date: January, 1993

Budget: Funding source: US Forest Service

Summary: The chemical Anipel has shown promise as a repellent and it is a safe and nontoxic material. This is a study to evaluate the effect of the treatment on laboratory seed germination and field protection.

Keyword 1: regeneration

Keyword 2: pesticide

Keyword 3:

No.: 104

Organization: USDA Forest Service, SOFES, Pineville, La

Study Title: Placement of mulch around planted longleaf pine seedlings as a means to initiate height growth.

Location: Louisiana, Palustris Exp Forest

Scientist: D. Haywood

Start Date: January, 1993

Budget: Funding source: US Forest Service

Summary: Study is designed to determine if mulch changes longleaf pine seedling root system development and the relationship between the longleaf pine seedling microenvironment, physiological processes, and emergence from the grass stage.

Keyword 1: regeneration

Keyword 2: herbicide

Keyword 3:

No.: 105

Organization: USDA Forest Service, SOFES, Pineville, La

Study Title: The management of longleaf pine for straw harvesting and its influence on forest and soil resources.

Location: Louisiana, Palustris Exp Forest

Scientist: D. Haywood

Start Date: January, 1990

Budget: Funding source: US Forest Service

Summary: This study shows that repeated litter removal significantly reduced growth of longleaf pine stands on these nutrient depleted soils. Fertilization seems to compensate for the loss due to removal of litter.

Keyword 1: prescribed burning

Keyword 2: fertilizer

Keyword 3:

No.: 106

Organization: USDA Forest Service, SOFES, Pineville, La

Study Title: Vegetation responses to frequency and season of burning in a longleaf pine community.

Location: Louisiana, Palustris Exp Forest

Scientist: D. Haywood

Start Date: January, 1973

Budget: Funding source: US Forest Service

Summary: Measurements after 20 years of treatment have been taken and a final report and publication will be prepared.

Keyword 1: prescribed burning

Keyword 2: understory

Keyword 3:

No.: 107

Organization: USDA Forest Service, SOFES, Pineville, La

Study Title: Growth and Yield of planted longleaf pine at the Sunset Tower.

Location: Louisiana, Palustris Exp. Forest

Scientist: C. Baldwin

Start Date: January, 1987

Budget: Funding source: US Forest Service

Summary: This study is one of a series evaluating stand productivity on a range of sites. The results have been incorporated into several publications and the study has been modified to evaluate response to fertilization and understory development.

Keyword 1: growth & yield

Keyword 2: thinning

Keyword 3: understory

No.: 108

Organization: USDA Forest Service, SOFES, Pineville, La

Study Title: Alexandria Phase southwide pine seed source study.

Location: Louisiana, Rapides Parish

Scientist: C. Baldwin

Start Date: January, 1957

Budget: Funding source: US Forest Service

Summary: This is one location of a regional study that is evaluating various longleaf pine seed sources. The results have been incorporated into several publications and are being used in an effort to understand the genetic response to climatic conditions.

Keyword 1: genetics

Keyword 2:

Keyword 3:

No.: 109

Organization: USDA Forest Service, SOFES, Pineville, La

Study Title: Burning, Pruning, and Thinning in a longleaf spacing plantation.

Location: Louisiana, Rapides Parish

Scientist: C. Baldwin

Start Date: January, 1951

Budget: Funding source: US Forest Service

Summary: This is an ongoing long-term study that is one of a series evaluating stand productivity on a range of sites. The results have been incorporated into several publications are being used in an effort to model longleaf pine growth and yield.

Keyword 1: growth & yield

Keyword 2: thinning

Keyword 3:

No.: 110

Organization: USDA Forest Service, SOFES, Pineville, La

Study Title: Yields of unthinned longleaf pine plantations on cutover sites in the West Gulf Region.

Location: Louisiana, Sabine, Beauregard, Rapides, P

Scientist: C. Baldwin

Start Date: January, 1975

Budget: Funding source: US Forest Service

Summary: This is an ongoing long-term study that is one of a series evaluating stand productivity on a range of sites. The results have been incorporated into several publications and are being used in an effort to model longleaf pine growth and yield.

Keyword 1: growth & yield

Keyword 2:

Keyword 3:

No.: 111

Organization: USDA Forest Service, SOFES, Starkville, Ms

Study Title: Soil seed bank on pine sites.

Location: Louisiana, Pineville

Scientist: F. T. Bonner, S. Meadows, D. Haywood

Start Date:

Budget: Funding source: US Forest Service

Summary: *Ilex vomitoria* and *Myrica cerifera* are potential understory competitors of longleaf.

Keyword 1: understory

Keyword 2:

Keyword 3:

No.: 112

Organization: Mississippi State University

Study Title: Fox squirrel decline in pine forests.

Location: Mississippi

Scientist: B. Leopold

Start Date:

Budget: Funding source: USDI National Biological Sur

Summary: no data yet

Keyword 1: mammals

Keyword 2:

Keyword 3:

No.: 113

Organization: USDA Forest Service, SOFES, Gulfport, Ms

Study Title: Genetic variation and diversity in longleaf involving
chromosome mapping, chloroplast DNA and isoenzymes.

Location: Mississippi

Scientist: R. C. Schmidtling

Start Date:

Budget: Funding source: US Forest Service

Summary: no data yet

Keyword 1: genetics

Keyword 2:

Keyword 3:

No.: 114

Organization: USDA Forest Service, SOFES, Gulfport, Ms

Study Title: Southwide Southern Pine Seed Source studies.

Location: Mississippi

Scientist: R. C. Schmidtling

Start Date: January, 1932

Budget: Funding source: US Forest Service

Summary: Whole study has recently been measured and increment
cores taken of all trees to examine variation in responses
to climatic fluctuations.

Keyword 1: growth & yield

Keyword 2: genetics

Keyword 3:

No.: 115

Organization: USDA Forest Service, SOFES, MS State, Ms

Study Title: Distance-dependent individual tree model.

Location: Mississippi

Scientist: W. Smith

Start Date:

Budget: Funding source: US Forest Service

Summary: Goal is the development of a distance-dependent individual tree model.

Keyword 1: silviculture

Keyword 2:

Keyword 3:

No.: 116

Organization: USDA Forest Service, SOFES, Louisiana

Study Title: The effects of age and residual basal area on growth and yield of planted longleaf pine on a good site.

Location: Mississippi, Perry County

Scientist: C. Baldwin

Start Date: January, 1965

Budget: Funding source: US Forest Service

Summary: This is an ongoing long-term study that is one of a series evaluating stand productivity on a range of sites. The results have been incorporated into several publications are being used in an effort to model longleaf pine growth and yield.

Keyword 1: growth & yield

Keyword 2: thinning

Keyword 3:

No.: 117

Organization: USDA Forest Service, SOFES, Pineville, La

Study Title: The effects of age and residual basal area on growth and yield of planted longleaf pine on a good site.

Location: Mississippi, Perry County

Scientist: C. Baldwin

Start Date: January, 1965

Budget: Funding source: US Forest Service

Summary: This is an ongoing long-term study that is one of a series evaluating stand productivity on a range of sites. The results have been incorporated into several publications are being used in an effort to model longleaf pine growth and yield.

Keyword 1: growth & yield

Keyword 2: thinning

Keyword 3:

No.: 118

Organization: Mississippi Natural Heritage Program

Study Title: Environmental assessment for the Mississippi Military Dept at Camp Shelby.

Location: Mississippi, Shelby

Scientist: D. Rankin, D. Wyrick, J. Dillon, M. Tuma

Start Date: April, 1994

Budget: 2.5 si/yr Funding source: Dept of Defense

Summary: Search for rare plants, animals and documenting communities and their condition.

Keyword 1: fauna

Keyword 2: understory

Keyword 3: classification

No.: 119

Organization: USDI, National Biological Survey Raleigh, NC

Study Title: Ecological study/management of the flora and fauna of the endangered longleaf pine ecosystem at Ft. Bragg, NC

Location: North Carolina, Ft Bragg

Scientist: P. Doerr, J. Walter, J. Carter III

Start Date:

Budget: Funding source:

Summary: Create history model for study populations . To determine if territory quality can be increased with artificial cavities. Response of ground cover and midstory vegetation and wiregrass to growing season fires.

Keyword 1: prescribed burning

Keyword 2: understory

Keyword 3: RCW

No.: 120

Organization: North Carolina State University

Study Title: Fire maintained vegetation of the fall-line sandhills.

Location: North Carolina

Scientist: R. Duncan

Start Date: January 1993

Budget: Funding source: North Carolina State Univ.

Summary: 1. Longleaf vegetation can be very species rich. 2. Considerable compositional variation exists do to soils. 3. Ecosystem has been extremely degraded by fire exclusion except on military lands.

Keyword 1: understory

Keyword 2: prescribed burning

Keyword 3:

No.: 121

Organization: North Carolina State University

Study Title: Longleaf pine vegetation of North Carolina

Location: North Carolina

Scientist: A. Weahley, T. Wentworth, M. Schafale, P. White, C. Frost

Start Date: January, 1989

Budget: Funding source: North Carolina State Univ.

Summary: 1. We have sampled some 321 sites and include some 1142 intensive 10 x 10 m plots. 2. a classification & description of the remaining fire-maintained vegetation is in preparation

Keyword 1: understory

Keyword 2: prescribed burning

Keyword 3:

No.: 122

Organization: North Carolina State University

Study Title: Mechanisms of coexistent in species - rich plant communities.

Location: North Carolina

Scientist: J. Walker, C. Norquist, J. Williams, E. vander Maavel

Start Date: January 1985

Budget: Funding source: North Carolina State Univ.

Summary: 1. Diversity is extremely high in coastal plain longleaf savannas 2. This diversity depends on low fertility & frequent fire. 3. Growth rate is more critical than resource ratio

Keyword 1: understory

Keyword 2: nutrients

Keyword 3:

No.: 123

Organization: North Carolina Vegetation Survey

Study Title: North Carolina Vegetation Survey

Location: North Carolina

Scientist: M. P. Schafale , A. Weahley, B. Peet, T. Wentworth

Start Date: January 1987

Budget: Funding source:

Summary: Data collected on the full range of coastal plain longleaf
pine communities. Communities have been classified and
sites ranked for community conservation value.

Keyword 1: understory

Keyword 2: classification

Keyword 3:

No.: 124

Organization: North Carolina State Forest Nutrition Coop.

Study Title: Foliar and soil nutrient distributions and correlations

Location: North Carolina

Scientist: D. P. Blevins , H. L. Allen

Start Date:

Budget: Funding source:

Summary: Soil nutrient distributions were highly skewed to the right;
foliar distributions were approximately normal. Correlations
between soil and foliar nutrients were generally not
significant.

Keyword 1: nutrients

Keyword 2: soils

Keyword 3:

No.: 125

Organization: North Carolina State Forest Nutrition Coop.

Study Title: Investigating longleaf pine mortality from pine beetle infestations following fertilization.

Location: North Carolina

Scientist: J. M. Warren, H. L. Allen

Start Date: February, 1994

Budget: Funding source:

Summary: no data available

Keyword 1: nutrients

Keyword 2: disturbance

Keyword 3: fauna

No.: 126

Organization: North Carolina State Forest Nutrition Coop.

Study Title: Weight loss and nutrient dynamics of decomposing longleaf needles.

Location: North Carolina

Scientist: D. P. Blevins, H. L. Allen

Start Date: May, 1992

Budget: Funding source:

Summary: After 1 year of decomposition needles contained 82 to 85% of initial dry weight, 100 to 115% of initial N mass, 75 to 115% of P mass, 20 to 25% of initial K mass, 82 to 90% of initial Ca mass, and 45 to 65% of initial Mg mass.

Keyword 1: nutrients

Keyword 2:

Keyword 3:

No.: 127

Organization: USDI, National Biological Survey Raleigh, NC

Study Title: Cooperative breeding in red-cockaded woodpeckers/

Location: North Carolina

Scientist: J. Walters

Start Date:

Budget: Funding source:

Summary: To determine if helper effort increase with relatedness to the breeder and future help from young produced.

Keyword 1: T&E

Keyword 2: RCW

Keyword 3: birds

No.: 128

Organization: North Carolina State Forest Nutrition Coop.

Study Title: Longleaf pine straw production and nutrient availability relationships.

Location: North Carolina and South Carolina

Scientist: H. L. Allen, S. R. Colbert, W. E. Garner, D. P. Blevins

Start Date: May, 1991

Budget: Funding source:

Summary: Plots established looking at litter fall, tree growth and foliar nutrition. Data not yet analyzed.

Keyword 1: nutrients

Keyword 2:

Keyword 3:

No.: 129

Organization: USDI, National Biological Survey Raleigh, NC

Study Title: Foraging habitat requirements of red-cockaded
woodpeckers in North Carolina Sandhills.

Location: North Carolina Sandhills

Scientist: P. Doerr, J. Walters, J. Carter III

Start Date:

Budget:

Funding source:

Summary: Develop a model to predicts the fitness of RCW based on
attributes of habitat, measure territory sizes and foraging
bases, relationship between size of foraging base and
fitness of RCW and measure foraging preferences as to
pine tree species, age, size, etc

Keyword 1: RCW

Keyword 2: T&E

Keyword 3: birds

No.: 130

Organization: USDI, National Biological Survey Raleigh, NC

Study Title: Population studies of RCW in the coastal plain of North
Carolina

Location: North Carolina Sandhills

Scientist: J. Walters

Start Date:

Budget:

Funding source:

Summary: To collect data to test the prediction ability of a model of
cooperative breeding strategy. To determine the effects of
prescribed burning, use of cavity restrictors, and
translocation of females.

Keyword 1: prescribed burning

Keyword 2: RCW

Keyword 3: birds

No.: 131

Organization: North Carolina State University

Study Title: Impact of pine straw raking on plant diversity in longleaf
pine ecosystems of the Croatan national forest.

Location: North Carolina, Croatan NF

Scientist: L. Kelly, T. Wentworth. J. Craig

Start Date: January 1991

Budget: Funding source: U. S. Forest Service

Summary:

Keyword 1: understory

Keyword 2:

Keyword 3:

No.: 132

Organization: DOD, Fort Bragg Natural Resources Branch

Study Title: Geographic Information System Forest Management
Module

Location: North Carolina, Fort Bragg

Scientist:

Start Date: FY95

Budget: \$110,000 Funding source: DOD-Army

Summary: Develop a grass module to assist forest managers in
developing silvicultural prescriptions for longleaf pine on
military installations in the Southeastern United States.

Keyword 1: silviculture

Keyword 2: gis

Keyword 3:

No.: 133

Organization: DOD, Fort Bragg Natural Resources Branch

Study Title: Geographic Information System Forest Management
Module

Location: North Carolina, Fort Bragg

Scientist: C. Franklin(NCSU), B. Hooper(USFS)

Start Date: FY95

Budget: \$63,500 Funding source: DOD-Army

Summary: To provide resource managers at installations with tools to
store, analyze and summarize the variables which affect
fire behavior and the desired results.

Keyword 1: prescribed burning

Keyword 2: gis

Keyword 3:

No.: 134

Organization: USDI, National Biological Survey Raleigh, NC

Study Title: Effects of different fire regimes on neotropical migratory
birds on Ft. Bragg, NC

Location: North Carolina, Ft. Bragg

Scientist: J. Collazo, J. Walters, P. Doerr, J. Carter III

Start Date:

Budget: Funding source:

Summary: To determine abundance and nesting levels, habitat
characteristic, predation rates, breeding habitat of NTMB in
habitat under different fire regimes.

Keyword 1: prescribed burning

Keyword 2: T&E

Keyword 3: birds

No.: 135

Organization: USDI, National Biological Survey Raleigh, NC

Study Title: The dynamics of cavity excavation and use by RCW.

Location: North Carolina, Ft. Bragg

Scientist: J. Walters, P. Doerr, J. Carter III

Start Date:

Budget: Funding source:

Summary: To measure rate of cavity excavation, use of cavities,
turnover rate of cavities, and to provide resources staff at
Ft. Bragg with cavity tree data.

Keyword 1: birds

Keyword 2: T&E

Keyword 3: RCW

No.: 136

Organization: USDA Forest Service, SEFES Clemson, USF&W

Study Title: Effects of flying squirrels on red-cockaded woodpecker
reproductive success.

Location: South Carolina, Carolina sandhills NWR

Scientist: K. Laevis, S. Lobe

Start Date: January, 1994

Budget: \$150,000 Funding source: DOE

Summary: no data summarized yet

Keyword 1: fauna

Keyword 2: T&E

Keyword 3: RCW

No.: 137

Organization: USDA Forest Service, SEFES Clemson, USF&W

Study Title: Effects of different treatments on native vegetation in
longleaf system.

Location: South Carolina, Carolina sandhills NWR & S

Scientist: J. Walker

Start Date:

Budget: Funding source: DOE

Summary: no data summarized yet

Keyword 1: understory

Keyword 2:

Keyword 3:

No.: 138

Organization: Tall Timbers Research Station

Study Title: An Experimental approach to restoration of longleaf pine
savanna communities in the Francis Marion NF.

Location: South Carolina, Francis Marion NF

Scientist: D. Streng and D. Wade

Start Date: August, 1991

Budget: \$58,028 Funding source: US Forest Service

Summary: Seeds of common longleaf pine savanna plants were
introduced into longleaf pine forest in the FMNF to
determine if it is possible to artificially enhance species
diversity. Study is part of larger scale burning study.

Keyword 1: understory

Keyword 2: restoration

Keyword 3: prescribed burning

No.: 139

Organization: Tall Timbers Research Station

Study Title: Floristic diversity in the Francis Marion National Forest
after three decades of prescribed winter fires applied at
various periodicities.

Location: South Carolina, Francis Marion NF

Scientist: J. Glitzenstein and D. Streng

Start Date: August, 1991

Budget: \$32,000 Funding source: US Forest Service

Summary: no data available

Keyword 1: understory

Keyword 2: prescribed burning

Keyword 3:

No.: 140

Organization: Tall Timbers Research Station

Study Title: Reconstructing vegetation and land-use history in the
Francis Marion National Forest

Location: South Carolina, Francis Marion NF

Scientist: J. Glitzenstein and Dale Wade

Start Date: August, 1991

Budget: \$35,969 Funding source: US Forest Service

Summary: This project is to develop some idea of the original
vegetation for the FMNF using a variety of historical and
paleoecological methods including phytolith analysis and
early species list and maps.

Keyword 1: understory

Keyword 2: restoration

Keyword 3:

No.: 141

Organization: USDA Forest Service, SEFES, Macon

Study Title: Floristic diversity after 3 decades of prescribed winter fires applied at various periodicities.

Location: South Carolina, Francis Marion NF

Scientist: J. Glitzenstein, D. Streng, D. Wade

Start Date: January, 1991

Budget: \$32,000 Funding source: USDA Forest Service

Summary: Objectives were to quantify the effects of frequency of burning on vegetation composition and structure and determine the influence of microtopography and hurricane Hugo caused canopy changes.

Keyword 1: understory

Keyword 2: prescribed burning

Keyword 3: disturbance

No.: 142

Organization: USDA Forest Service, SEFES, South Carolina

Study Title: Evaluation of longleaf pine seed sources to be used in regenerating storm-damages areas on the Francis Marion National Forest in South Carolina

Location: South Carolina, Francis Marion NF

Scientist: E. Sluder

Start Date: June 1990

Budget: \$5,000 Funding source: USDA-FS

Summary: At age 3 years from seed, survival was high and most seedlings had begun height growth. Variation among seed sources was non-significant for survival, significant for height in two location and significant for within-plot c.v in height in Georgia.

Keyword 1: genetics

Keyword 2:

Keyword 3:

No.: 143

Organization: USDA Forest Service, SEFES, Florida

Study Title: Effect of cultural treatments, overstory density, and site on
the growth rate of under-planted wiregrass in longleaf
stands at SRS

Location: South Carolina, Savannah River Site, Aiken

Scientist: K.W. Outcalt

Start Date: May, 1993

Budget: \$40,000/year Funding source: Dept. of Energy

Summary: Wiregrass was successfully established by planting plugs
under existing longleaf in spite of a severe summer
drought. There were no differences in survival rates by
treatment with control, mechanical, and herbicide all
averaging 60%.

Keyword 1: restoration

Keyword 2: wiregrass

Keyword 3: herbicide

No.: 144

Organization: USDA Forest Service, SEFES, Florida

Study Title: Small scale disturbance in longleaf stands from lightning

Location: South Carolina, Savannah River Site, Aiken

Scientist: K.W. Outcalt

Start Date: May, 1993

Budget: \$11,000/year Funding source: Dept. of Energy

Summary: The study objective is to determine the level of mortality
from lightning and to see if a lightning detection system can
be used to predict the location of small scale disturbance in
longleaf communities.

Keyword 1: disturbance

Keyword 2:

Keyword 3:

No.: 145

Organization: US Forest Service, SEFES, Athens, Ga

Study Title: Arthropod prey of red-cockaded woodpecker nestlings in
the upper coastal plain of South Carolina

Location: South Carolina, SRP

Scientist: J. L. Hanula

Start Date: September, 1992

Budget: 1.5 si/yr Funding source: US Forest Service

Summary: Wood roaches made up 70% of the diet of nestlings. Food
of nestling RCW are not species that are specifically
associated with the bird's primary foraging habitat, it., the
bark of live pine trees.

Keyword 1: fauna

Keyword 2: RCW

Keyword 3: T&E

No.: 146

Organization: US Forest Service, SEFES, Athens, Ga

Study Title: Arthropods associated with the bark of longleaf pine.

Location: South Carolina, SRP

Scientist: J. L. Hanula

Start Date: September, 1992

Budget: 1.5 si/yr Funding source: US Forest Service

Summary: Comparison of arthropods captured in the 3 types of traps
will allow us to determine what are the sources of
arthropods on the bark of live trees.

Keyword 1: fauna

Keyword 2:

Keyword 3:

No.: 147

Organization: USDI, National Biological Survey, Athens, Ga

Study Title: Territory size of the Bachman's sparrow.

Location: South Carolina, SRP

Scientist: J. Stober, D. G. Krementz

Start Date: May, 1994

Budget: 0.4 si/yr Funding source: US Forest Service & EPA

Summary: Establish the territory size of the Bachman's sparrow in relation to pine type, Loblolly, or Longleaf, and stand age. These data will be incorporated into a spatially-explicit model.

Keyword 1: Birds

Keyword 2: T&E

Keyword 3:

No.: 148

Organization: USDA Forest Service, SOFES, Pineville, La

Study Title: Growth and Yield of planted longleaf pine on medium and poor sites.

Location: Texas, Jasper and Sabine Counties

Scientist: C. Baldwin

Start Date: January, 1965

Budget: Funding source: US Forest Service

Summary: This is an ongoing long-term study that is one of a series evaluating stand productivity on a range of sites. The results have been incorporated into several publications are being used in an effort to model longleaf pine growth and yield.

Keyword 1: growth & yield

Keyword 2: thinning

Keyword 3:

No.: 149

Organization: The Nature Conservancy

Study Title: Ecological classification system for National Forest Lands
in Texas and Louisiana.

Location: Texas, Louisiana

Scientist:

Start Date: Jan, 1995

Budget: Funding source:

Summary: This long term project will provide information for
delineating and describing ecological units on the
landscape within the longleaf pine ecosystem

Keyword 1: landscape

Keyword 2: classification

Keyword 3:

No.: 150

Organization: USDA Forest Service, SOFES, Nacogdoches, Tx

Study Title: Habitat selection by canebrake rattlesnakes and Louisiana
pine snakes

Location: Texas, Nacogdoches

Scientist: D. C. Rudolph

Start Date: August, 1992

Budget: .20 scientist yr Funding source: US Forest Service

Summary: Data to date suggest that Louisiana pine snake is a
category 2 species which frequently uses burned habitats
with an abundance of pocket gophers.

Keyword 1: prescribed burning

Keyword 2: fauna

Keyword 3:

No.: 151

Organization: USDA Forest Service, SOFES, Nacogdoches, Tx

Study Title: Habitat use by American Kestrels in eastern Texas.

Location: Texas, Nacogdoches

Scientist: D. C. Rudolph

Start Date: February, 1993

Budget: .10 scientist yr Funding source: US Forest Service

Summary: Data to date suggests extensive use of fire climax pine forests and areas managed for red-cockaded woodpeckers.

Keyword 1: birds

Keyword 2: old-growth

Keyword 3: RCW

No.: 152

Organization: USDA Forest Service, SOFES, Nacogdoches, Tx

Study Title: Responses of hillside seepage bogs and longleaf pine - bluestem savannas to burning frequency and season.

Location: Texas, Nacogdoches

Scientist: D. C. Rudolph

Start Date: April, 1993

Budget: .25 scientist yr Funding source: US Forest Service

Summary: The initial round of treatment burns have been completed. We will examine the effects of season and frequency of fire on the herbaceous vegetation of bogs and upland sites.

Keyword 1: prescribed burning

Keyword 2: understory

Keyword 3:

SECTION TWO

ADAPTIVE MANAGEMENT



Organization: FI Division of Forestry

Keyword: Wiregrass

Location: Florida

Technique: Apply 3 summer burns at 3 year intervals.

Results: Technique gives maximum viable wiregrass seed productions. Burning should be done from April-June and seed collected in November.

Organization: Georgia Pacific

Keyword: Regeneration

Location: Florida

Technique: Hexazinone and machine planting.

Results: Liquid Hexazinone applied at rate of .75 - 1.5 lbs A.I./ac followed by machine planting works best. Mechanical site preparation and hand planting has consistently shown to be an unacceptable method of reforestation.

Organization: Jefferson Smurfit Corp & CCA

Keyword: Site Preparation

Location: Florida

Technique: Garlon 4 and Escort

Results: Wiregrass was released in flatwoods stands following treatment which killed woody understory.

Organization: USDA Forest Service, Apalachicola NF

Keyword: Restoration

Location: Florida, Apalachicola Ranger Dist.

Technique: Effects of grazing and prescribed burning on
the threatened *Scutellaria Floridana*.

Results: Grazing impact is inconclusive. Lack of p-burn is
noticeably detrimental. Few blooms, few fruits in unburned
plots.

Organization: USDA Forest Service, Apalachicola NF

Keyword: Restoration

Location: Florida, Apalachicola Ranger Dist.

Technique: Harper Beauty Restoration by hand cutting
and prescribed burning.

Results: Harper Beauty increased following treatment.

Organization: USDA Forest Service, Apalachicola National

Keyword: Prescribed fire

Location: Florida, Apalachicola Ranger District

Technique: Study of the effect of growing season burns
on plant species

Results: No data yet.

Organization: USDA Forest Service, Apalachicola National

Keyword: Uneven-aged management

Location: Florida, Apalachicola Ranger District

Technique: A block of 700 acres is being setup to harvest using selection techniques to study the effects on RCW and timber yields.

Results: No data yet.

Organization: FI DEP, Div Recreation & Parks

Keyword: Wiregrass restoration

Location: Florida, Lake Griffin State Recreation A

Technique: Exploring ways of restoring wiregrass to aid in the management of clasping warea (*Warea amplexifolia*).

Results: not yet available

Organization: USDA Forest Service, Ocala National Forest

Keyword: Regeneration

Location: Florida, Seminole Ranger District

Technique: Summer vs Winter planting.

Results: Both are successful if moisture is plentiful. Dry periods are more damaging in the summer than winter.

Organization: USDA Forest Service, Ocala National Forest

Keyword: Regeneration

Location: Florida, Seminole Ranger District

Technique: Hand vs Machine Planted.

Results: Machine planting has given more consistent results. Best machine has been the double coulter v-blade planter.

Organization: USDA Forest Service, Ocala National Forest

Keyword: Site preparation

Location: Florida, Seminole Ranger District

Technique: Shear, rake and chop

Results: Too much soil disturbance and impact to understory. Longleaf survival was good by growth has been poor.

Organization: USDA Forest Service, Ocala National Forest

Keyword: Site preparation

Location: Florida, Seminole Ranger District

Technique: Hexazinone

Results: Wiregrass seems to have increased while Longleaf survival and growth were both good.

Organization: USDA Forest Service, Ocala National Forest

Keyword: Site preparation

Location: Florida, Seminole Ranger District

Technique: single chop

Results: Oak sprouted vigorously making it necessary to release
longleaf seedlings 1-3 years later. Longleaf survival was
fair but growth was poor until after release.

Organization: USDA Forest Service, Ocala National Forest

Keyword: Site preparation

Location: Florida, Seminole Ranger District

Technique: Garlon 4

Results: Didnot control woody vegetation very well.

Organization: USDA Forest Service, Ocala National Forest

Keyword: Site preparation

Location: Florida, Seminole Ranger District

Technique: Double Chop

Results: Severely reduced wiregrass and other herbaceous species.
Longleaf survival and growth were good.

Organization: USDA Forest Service, Ocala National Forest

Keyword: Site preparation

Location: Florida, Seminole Ranger District

Technique: Thinline with Garlon 4 and oil.

Results: Good control of hardwoods. Application timing very important. Longleaf survival and growth good.

Organization: USDA Forest Service, Ocala National Forest

Keyword: Site preparation

Location: Florida, Seminole Ranger District

Technique: Hack 'n' Squirt with Garlon 3A

Results: Good control of overstory/midstory target trees. Brush not controlled. Generates lots of snags. Easy to protect individual trees for wildlife. Longleaf survival and growth was fair.

Organization: USDA Forest Service, Ocala National Forest

Keyword: Site preparation

Location: Florida, Seminole Ranger District

Technique: Mechanical chipping of all residual trees.

Results: Too recent to see vegetative response yet. Longleaf survival was poor but attributed to dry planting weather.

Organization: USDA Forest Service, Ocala National Forest

Keyword: Site preparation

Location: Florida, Seminole Ranger District

Technique: Spot Grid application of Velpar L.

Results: Good control of Oaks and wiregrass cover increased.
Longleaf survival and growth was good.

Organization: USFWS, Okefenokee National Wildlife Refu

Keyword: Regeneration

Location: Georgia, Folkston

Technique: bare root and container seedlings planted
on prepared and control areas from different

Results: Possible survival advantage where seed source came from
poorly drained areas. Survival of containerized seedlings
was far superior to the bare root seedlings. Survival and
vigor is superior where rows were prepared.

Organization: USFWS, Okefenokee National Wildlife Refu

Keyword: Restoration

Location: Georgia, Folkston

Technique: Slash pine stands with scattered remnant
longleaf were thinned to an open crown con

Results: After two or three prescribed fire cycles seedlings of longleaf
pine have become established in the understory of these
predominantly slash pine stands.

Organization: USDA Forest Service, Biloxi Ranger Dist. M

Keyword: Regeneration

Location: Mississippi, Desoto National Forest

Technique: Machine plant large longleaf seedlings with minimal site preparation, followed by prescri

Results: Good success when sites are burned often. They do not burn after the seedlings initiate height growth but when they get about waist high they start burning again.

Organization: North Carolina State University

Keyword: Prescribed Burnings

Location: North Carolina

Technique: Growing season prescribed burns.

Results: Losses of overstory trees mostly due to burning in deep duff around base of trees. The burning has resulted in increased longleaf regeneration in canopy gaps, reduction of understory hardwood density, and recovery of suppressed ground cover.

Organization: Medway Plantation, South Carolina

Keyword: Prescribed burning.

Location: South Carolina, Berkeley County

Technique: Fire rotation on a three year schedule with late winter, early spring fires.

Results: Good control of Loblolly and other competitive plant species.

Organization: USDA Forest Service, San Jacinto Ranger

Keyword: Regeneration

Location: Texas, Cleveland

Technique: 3 cut shelterwood

Results: Better distribution of seedfall and therefore seedlings. First cut used to promote crown development for future cone production.

SECTION THREE

RESEARCH NEEDS

Keywords: assessment

Research Needs: Develop the distribution, structure, and pattern of the longleaf ecosystem.

Keywords: biodiversity

Research Needs: Daylight mechanisms that account for changes in diversity such as altered competition, magnitude and heterogeneity of changes in resource availability, regeneration niches and reproduction.

Keywords: biomass

Research Needs: How much C is allocated to longleaf foliage?

Keywords: classification

Research Needs: Work needed throughout SE to understand regional patterns of vegetation.

Keywords: classification

Research Needs: Assessment of value of remaining longleaf habitats.

Keywords: classification

Research Needs: Identification of indicator species for longleaf pine
wiregrass savanna.

Keywords: disturbance

Research Needs: The effect of small scale disturbance and distribution of
open patches on the dynamics of longleaf communities.

Keywords: disturbance

Research Needs: The role of pocket gophers in longleaf communities.

Keywords: disturbance

Research Needs: Quantify relationship between disturbance and resultant longleaf overstory mortality (e.g.; lightning strikes and beetle attack).

Keywords: ecology

Research Needs: Identification of ecotones between longleaf and sand pine scrub.

Keywords: ecology

Research Needs: Modeling of ecosystem process in longleaf communities.

Keywords: ecology

Research Needs: Definition or description of longleaf pine ecosystem prior to disturbance by Europeans

Keywords: economics

Research Needs: Economics studies of uneven aged management in longleaf.

Keywords: economics

Research Needs: The effect of cost subsidies on longleaf regeneration by private landowners.

Keywords: ecosystem management

Research Needs: Determine how ecosystem patterns and processes such as heat/water balance, primary productivity, secondary productivity and decomposition/nutrient cycling respond to various land use and resource management activities, disturbance and climatic change.

Keywords: ecosystems

Research Needs: Investigate basic ecological relationships (interactions) in longleaf ecosystems.

Keywords: fauna

Research Needs: Identification of threshold human activity levels tolerated by sensitive wildlife species.

Keywords: fire

Research Needs: Fire tolerance of longleaf by age/height.

Keywords: fire

Research Needs: How does season of burning interact with hydrologic gradient to sort oak species throughout the landscape.

Keywords: fire

Research Needs: Determine the influence of fire on plant diversity of herbaceous communities.

Keywords: fire

Research Needs: Interaction between C cycling and fire such as aboveground vs belowground, understory vs. overstory, fires effect on pool sizes and flux among C pools.

Keywords: fire

Research Needs: Determine if disproportionate amount of C is allocated to belowground structures to protect from fire, and whether decomposition processes are largely fuels from belowground detritus pools.

Keywords: fire

Research Needs: Examine biological vs. thermal decomposition of aboveground understory plant parts.

Keywords: fire

Research Needs: Determine C allocation patterns of overstory longleaf and how patterns in allocation contrast across resource gradients and/or fire regimes.

Keywords: fire

Research Needs: What is the relative importance of thermal decomposition and biological decomposition of aboveground litter, and the relative role of aboveground vs. belowground decomposition?

Keywords: fire

Research Needs: What is the variation in nutrient flux, transformation, and availability in relation to geomorphic (moisture, topography) and fire regime.

Keywords: fire

Research Needs: Effect of growing season burns on upland game species. The timing, size etc... will have varying effects - particularly ground nesters. What would the cost/benefit ratio be for all game species.

Keywords: fire

Research Needs: Changes in understory due to growing season burning, Quantitative data is not available for predicating this.

Keywords: fire

Research Needs: Effect of fire on understory plant communities.

Keywords: fire

Research Needs: Methods for mimicking the effects of fire in locations where fire fuels are absent or for reducing the intensity of prescribed fires where fuel levels are dangerously high.

Keywords: fire

Research Needs: The effects of fire size, season, and frequency on invertebrates.

Keywords: fire

Research Needs: The effects of growing season fire on vertebrate non-game and game species.

Keywords: fire

Research Needs: Specific causes of high pine mortality following fire in long-unburned flatwoods.

Keywords: fire

Research Needs: Effect of growing season burns.

Keywords: fire

Research Needs: The effect of season of burn on longleaf regeneration.

Keywords: fire

Research Needs: The effect of seasonal burns on understory vegetation.

Keywords: fire

Research Needs: The effect of fire in long unburned longleaf pine stands.

Keywords: fire

Research Needs: Effect of growing season burns on overstory composition in mixed pine stands.

Keywords: general

Research Needs: Determine extent to which patterns in species distribution are a function of soil moisture, N availability or fire characteristics.

Keywords: general

Research Needs: I don't think your longleaf pine ecosystem research is going to come up with anything that isn't already know or is in print; therefore, it is probably a waste of time.

Keywords: general

Research Needs: Determine to what degree the fragmentation of this ecosystem has adversely affected its continuing viability.

Keywords: genetic

Research Needs: Genetic variability in longleaf pine and wiregrass throughout their ranges.

Keywords: hydrology

Research Needs: Hydrologic characteristics of longleaf savannas and transition zones.

Keywords: large woody debris

Research Needs: Assess the physical characteristics of large woody debris and relate size and decay class distributions to ratios of productivity and decomposition along the hydrologic gradient.

Keywords: large woody debris

Research Needs: Assess the functional role of large woody debris including snags.

Keywords: large woody debris

Research Needs: Effects of downed logs on understory plant populations and longleaf seedling survival. (fire dams)

Keywords: large woody debris

Research Needs: Effects of large woody debris/fire relationships to spatial variation of nutrient pools and availability.

Keywords: large woody debris

Research Needs: Determine the influence of woody debris in soil characteristics, storage or flow of nutrients and energy, and facilitation of decomposers and heterotrophs.

Keywords: litter fall

Research Needs: Determine the relationship between the magnitude and effects of C additions to the detritus pools from branches, stems and coarse roots.

Keywords: management

Research Needs: How to manage mixed southern yellow pine stands.

Keywords: management

Research Needs: Methods for mimicking landscape scale process intensity and spatial characteristics in small, fragmented habitats.

Keywords: management

Research Needs: The effects of longleaf pine forestry techniques on ecosystem function and diversity. Economic analysis of uneven aged timber management in longleaf pine communities.

Keywords: management

Research Needs: Systems for managing longleaf pine in uneven age stands.

Keywords: management

Research Needs: How to manage longleaf pine in uneven aged stands.

Keywords: monitoring

Research Needs: Monitoring strategies for indicator species in longleaf communities.

Keywords: monitoring

Research Needs: Measuring the success of ecosystem management at different scales.

Keywords: nutrients

Research Needs: Effect of pine straw raking on soil chemical and physical property.

Keywords: pest

Research Needs: Pest management in longleaf systems.

Keywords: pest

Research Needs: The effects of invasive non-native species on native ecosystem function and diversity and methods for their control.

Keywords: regeneration

Research Needs: Determine the relationship between the size distribution of mortality patches and the establishment and growth response of regeneration in these patches. (Will be important when developing and assessing unevenaged systems based on natural patch dynamics)

Keywords: regeneration

Research Needs: How to establish and manage longleaf communities on clay soils.

Keywords: regeneration

Research Needs: Regeneration techniques for longleaf pine on fine textured soil.

Keywords: restoration

Research Needs: Methodology and technology for large-scale restoration of longleaf communities.

Keywords: restoration

Research Needs: Techniques for restoring improved pasture to longleaf pine communities.

Keywords: restoration

Research Needs: Restoration techniques to restore agricultural lands to sandhill.

Keywords: restoration

Research Needs: Criteria and procedure for selecting and locating critical areas for longleaf ecosystem restoration.

Keywords: restoration

Research Needs: Methods to re-establish native vegetation, especially wiregrass, in longleaf communities.

Keywords: silviculture

Research Needs: Silviculture systems for management of natural longleaf ecosystem.

Keywords: social

Research Needs: How to encourage private landowner and industry to establish and manage longleaf systems.

Keywords: T&E

Research Needs: The effect of mid-story oak removal on sherman fox squirrel.

Keywords: T&E

Research Needs: What predators are dependent upon the Louisiana pine snake.

Keywords: T&E

Research Needs: Effective methods of managing T&E species on private lands.

Keywords: templates

Research Needs: Assessment of condition and quality of remaining longleaf communities.

Keywords: templates

Research Needs: Develop an understory classification system to provide management direction for restoration of longleaf systems.

Keywords: templates

Research Needs: Develop a definition for ecological health of the longleaf pine ecosystem.

Keywords: understory

Research Needs: How to reestablish understory species in longleaf systems.

Keywords: understory

Research Needs: Methods to restore/rehabilitate ground cover in longleaf communities.

Keywords: understory

Research Needs: The effect of herbicides on understory vegetation in longleaf communities.

Keywords: understory

Research Needs: Ecological effect of pine straw raking on understory of longleaf communities.

Keywords: understory

Research Needs: The effect of pine staw raking on understory vegetation.

Keywords: understory

Research Needs: Effectiveness of mowing vs burning during growing season for restoration and maintenance of understory in longleaf communities.

Keywords: understory

Research Needs: Effect of herbicides on understory vegetation on longleaf communities.



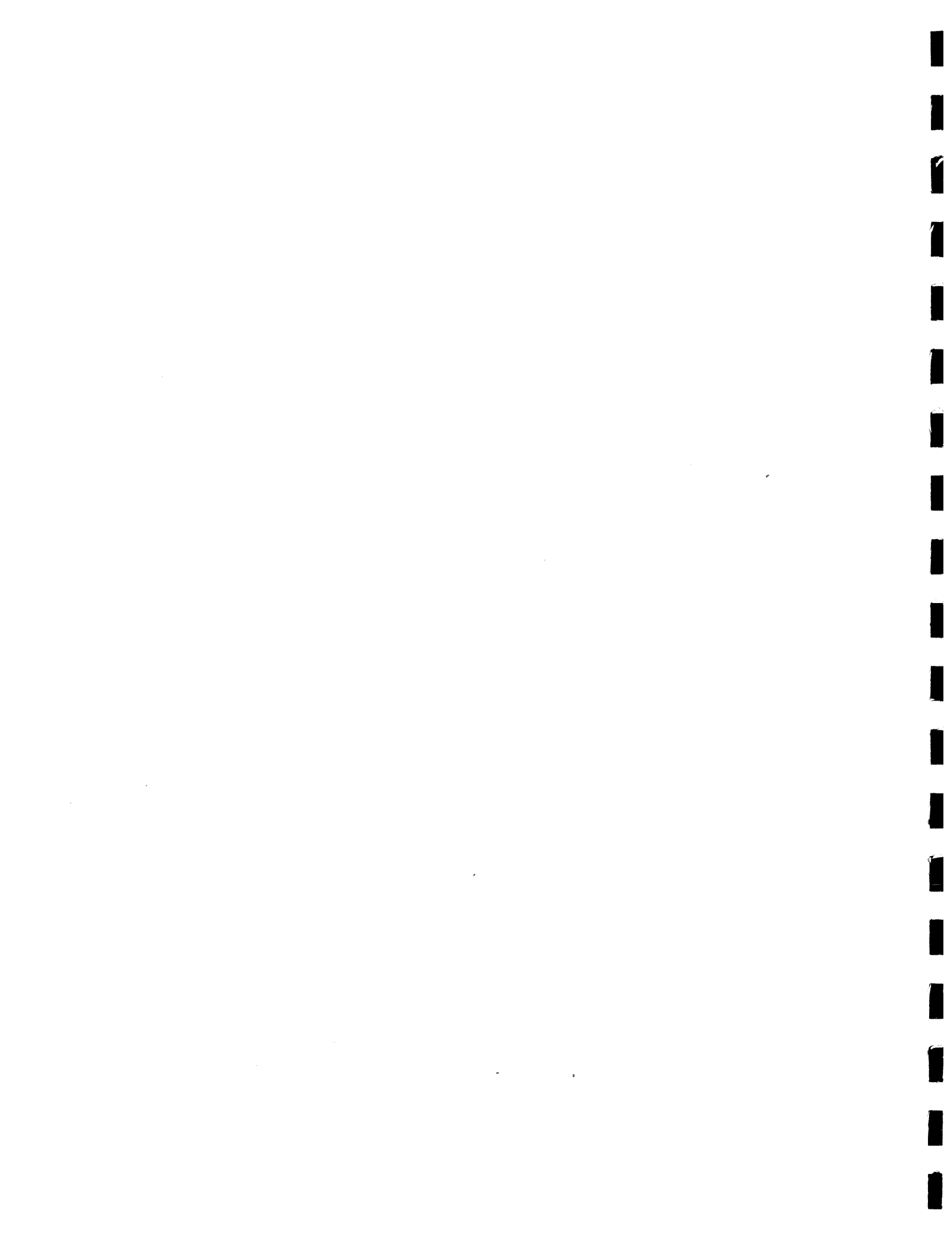
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Research Studies

Organization:

Study Title:

Location:

Scientist:

Start Date:

Budget:

Summary:

Organization:

Study Title:

Location:

Scientist:

Start Date:

Budget:

Summary:

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Management Information

Organization:

Subject Area:

Location:

Technique:

Results:

Organization:

Subject Area:

Location:

Technique:

Results:

Organization:

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